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Amendment and Response Under 37 C.F.R. 1.116
Applicant: James A. Matthews
Serial No.: 10/632,167
Filed: July 30, 2003
Docket No.: 10030278-1
Title: INTEGRATED OPTICAL DETECTOR AND DIFFRACTIVE OPTICAL ELEMENT

IN THE CLAIMS

Please cancel claims 4 and 7 without prejudice.

Please amend claims 1, 5, 6, 10-11, and 19-23 as follows:

1. (Currently Amended) An integrated optical apparatus configured to detect and diffract light transmitted from a light source external to the integrated optical apparatus, the integrated optical apparatus comprising:

a substrate; and

a diffractive optical element including:

a plurality of stacked layers of optically transmissive material formed on the substrate, wherein at least one of the layers of optically transmissive material is a sensing element ~~that is~~having a resistance responsive to incident light.

2.-3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) The integrated optical apparatus as in ~~claim 4~~claim 1, ~~further comprising:~~wherein the sensing element is configured to provide a response to a control circuit, external to the integrated optical apparatus, ~~coupled to the sensing element~~ for measuring the response of the sensing element to incident light, and for controlling the light source.

6. (Currently Amended) The integrated optical apparatus as in claim ~~5~~1, wherein the light source is a laser.

7. (Cancelled)

8.-9. (Cancelled)

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10. (Currently Amended) The integrated optical apparatus as in claim 1, further comprising:

a first and second contact on the sensing element for measuring the resistance of the sensing element.

11. (Currently Amended) The integrated optical apparatus as in claim 1, wherein the optically transmissive material includes a semiconductor.

12. – 18. (Cancelled)

19. (Currently Amended) The integrated optical apparatus as in claim 1, wherein the temperature of the sensing element is responsive to light.

20. (Currently Amended) The integrated optical apparatus as in claim 1, wherein at least two of the layers of optically transmissive material are sensing elements ~~that are~~having resistances responsive to incident light.

21. (Currently Amended) The integrated optical apparatus as in claim 1, wherein at least two adjacent layers of optically transmissive material are sensing elements ~~that are~~having resistances responsive to incident light.

22. (Currently Amended) The integrated optical apparatus as in claim 1, wherein at least two non-adjacent layers of optically transmissive material are sensing elements ~~that are~~having resistances responsive to incident light.

23. (Currently Amended) The integrated optical apparatus as in claim 1, wherein all of the layers of optically transmissive material are sensing elements ~~that are~~having resistances responsive to incident light.

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